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Subject: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Fri, 01 Oct 2010 22:37:28 GMT  
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Hi all,

I'm trying to use the scatter ctrl in order to retrieve the drawing that I will insert in a report.

When I put a scatter class in the layout designer, all displays right.  
But when I use GetDrawing on another scatter instance with same data and config, all fonts are very small and the data points aren't visible any more (too small I think).

What method should be called in order to get the same results as displayed on the screen when used as a control ?

I have to admit I don't understand anything about the zoom functions in controls FontZ, xxxZ, ....  
How does all this work ?

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Sat, 02 Oct 2010 12:05:49 GMT  
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Hello Didier

Maybe this could serve you:

Report r;

```
r.NewPage();
Topic t = GetTopic("topic://MyPackage/MyReport$en-en");
String qtf = t.text;
Image image = scatter.GetImage(2);
{
    DrawingDraw dw(width, height);
    dw.DrawImage(0, 0, width, height, image);
    QtfRichObject pict(CreateDrawingObject(dw.GetResult(), Size(width, height), Size(width, height)));
```

```
String qtfG;
String token = "[Graph]"
int pos = qtf.Find(DeQtf(token));
qtfG << qtf.Left(pos) << pict << qtf.Mid(token.GetCount());
```

```
r << qtfG;
}
```

The report design is done in Topic t, that contains a "[Graph]" to be replaced by the Scatter in image.

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Sat, 02 Oct 2010 15:14:09 GMT  
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Hi Koldo,

As a matter of fact , I added a 'AddDrawing' method to my report generator package:

```
void ReportGenerator::replaceDrawing(const StringType& label, const Upp::Drawing& inputDrw,
Upp::Size destSize )
{
    Upp::String s;
    if (!inputDrw.IsNullInstance() )
    {
        if (destSize.cy != 0)
        {
            if ( inputDrw.GetSize().cx*100/inputDrw.GetSize().cy > destSize.cx*100/destSize.cy )
            {
                s << AsQTF(CreateDrawingObject(inputDrw, destSize.cx,0));
            }
            else
            {
                s << AsQTF(CreateDrawingObject(inputDrw, 0, destSize.cy));
            }
        }
        else
        {
            s << AsQTF(CreateDrawingObject(inputDrw));
        }
    }
    else
    {
        replaceImage(label, ReportGeneratorImg::EMPTY_IMG(), destSize);
    }
    replaceVar(label,s);
};
```

The code is inspired from another Upp package from Sergei I think.  
I preferred to use the a DrawingObject object instead of passing by an intermediate Image like in you're example: this keeps the pdf files as light as possible.

This works very well with the PieChart ctrl (see the sample report I joined ) but with the Scatter

ctrl, it doesn't work: I see the graph but the points are too small to appear and the fonts are almost unreadable

I know something is done when `CtrlLayoutxxx()` methods are called but I don't understand the philosophy of the '`xxxZxxx()`' methods which are used to counter the problem I have and since the `PieChart` and `Scatter` don't behave the same ... I'm stuck for the moment

BTW: the report joined is completely generated from SQL data including images and charts.

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## File Attachments

1) [testReport.pdf](#), downloaded 376 times

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Subject: Re: Scatter : `getDrawing` !!!! help !!!!  
Posted by [koldo](#) on Sat, 02 Oct 2010 19:26:29 GMT  
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Sorry Didier

I cannot see where is the Scatter in your code.

Could you include a test case?

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Subject: Re: Scatter : `getDrawing` !!!! help !!!!  
Posted by [Didier](#) on Sat, 02 Oct 2010 20:21:05 GMT  
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Hi Koldo,

I've been looking in to it this afternoon, and there is a bug in Scatter.

The CIRCLE mark seems to malfunction in some circumstances: other marks look good while circle doesn't appear ??.

As far as I've looked, it seems that there are some "magic numbers" in the Scatter ctrl.

For example:

```
Drawing Scatter::GetDrawing() const
{
    DrawingDraw ddw(6*GetSize());
    SetDrawing (ddw, 6);
    return ddw;
}
```

What is the '6' value for ???

While in the 'GetImage()' function, there is a scale parameter...

I'll make a test case (some other magic numbers are hanging around I think).

Asta luego

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Sat, 02 Oct 2010 21:48:58 GMT  
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Hello Didier

I have included GetDrawing() (excellent idea, the pdfs are smaller now ), and it have worked very well for me, including circles. I have changed the Drawing scale and the results have been the same, I cannot find "magic" numbers .

The previous code is now simpler:

Report r;

```
r.NewPage();
Topic t = GetTopic("topic://MyPackage/MyReport$en-en");
String qtf = t.text;
Drawing drw = scatter.GetDrawing();
{
    QtfRichObject pict(CreateDrawingObject(drw, Size(width, height), Size(width, height)));

    String qtfG;
    String token = "[Graph]"
    int pos = qtf.Find(DeQtf(token));
    qtfG << qtf.Left(pos) << pict << qtf.Mid(token.GetCount());

    r << qtfG;
}
```

I think scaling is much less important in a Drawing than in a Image.

Could you include a simple test case?

Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Sun, 03 Oct 2010 09:40:34 GMT  
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Hi Koldo,

In fact I had two problems:

- One with the font sizes ==> I corrected this one by adding  
`graph1.SetRect(0,0,600,350);`  
the default size was to big, so when resizing ... the fonts got to small

- Display of CIRCLE marks: ==> this one is still hanging around.

I'm doing a test case and it works for the moment ....

I think my problem is linked to the fact that the image is inserted inside a table.

A small correction in scatter makes it work again:

```
void Scatter::Circle(Draw& w, const int& scale, const Point& cp, const int& size, const  
class::Color& markColor)const  
{  
    Point cp2 = cp;  
    cp2.x++;  
    w.DrawLine(cp,cp2,fround(scale*size/6),markColor);  
}
```

I will enhance my test case and check this today ...

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Sun, 03 Oct 2010 10:53:57 GMT  
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Hi Koldo,

I've finished my test case but it still works as it should ?!?

I also modified my app in order to execute the same code when displaying the report and I have some differences:

- the lines don't get displayed the same way (and circles are drawn using lines)

I joined an image to show what I'm talking about.

It looks like my app has some different settings ( DPI or something like that ??) which modifies line drawing.

But I never touch such parameters (at least not intentionally )

What do you think ?

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#### File Attachments

1) [testReport.jpeg](#), downloaded 697 times

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Subject: Re: Scatter : getDrawing !!!! help !!!!

Posted by [koldo](#) on Sun, 03 Oct 2010 18:43:29 GMT

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Hello Didier

To answer you something useful I need desperately a test sample .

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Subject: Re: Scatter : getDrawing !!!! help !!!!

Posted by [Didier](#) on Sun, 03 Oct 2010 19:03:02 GMT

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Hi Koldo,

I found the problem: it's linked with the Painter package.

I made a test case:

- without Painter : all is OK
- With Painter ... Points are not displayed and grid isn't displayed correctly.

NB: A complete rebuild must be done when adding/removing Painter package in order to see the effects.

In my test case I use Replace() function to get as close as possible to Report generation.

So is it a Scatter bug, a Painter bug ???

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#### File Attachments

1) [ScatterBug\\_TestCase.tar.gz](#), downloaded 273 times

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Mon, 04 Oct 2010 08:24:06 GMT  
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Hello Didier

Well done!. Now it has been easier to find the problem.

This the old circle implementation:

```
w.DrawLine(cp,cp,fround(scale*size/6),markColor);
```

and this is the new:

```
w.DrawLine(cp.x,cp.y,cp.x+1,cp.y,fround(scale*size/6),markColor);
```

As line length was 0, Draw painted it but Painter does not .

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Mon, 04 Oct 2010 21:18:49 GMT  
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Hi Koldo,

Thank's for the quick reply, but ... I already tried this one:

```
{  
  Point cp2 = cp;  
  cp2.x++;  
  w.DrawLine(cp,cp2,fround(scale*size/6),markColor);  
}
```

And although it seems to work at first, some points don't get drawn (because of rounding probably).

So it's not sufficient and anyway the grid doesn't display correctly neither.

==> Maybe this is more a Painter issue with line drawing.

Also drawing a real circle, although much less efficient, would be a better solution for the CIRCLE mark I think

One good point: no matter if Painter is here or not, the Pdf export function creates the same output (which is correct).

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Tue, 05 Oct 2010 06:10:50 GMT  
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Hello Didier

some points don't get drawn I will draw circles instead of short lines.

and anyway the grid doesn't display correctly neither I think you say gray grid is straight lines, without dashes in Painter and Pdf... I know why . It is not a problem of Painter or Scatter. This is because Draw does not support dashed lines... well yes, with a trick in the color.  
Today I will insert real dashed lines .

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Tue, 05 Oct 2010 17:03:38 GMT  
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Hi Koldo,

Fantastic

I didn't know Draw didn't support dashed lines.

What is the trick with dashes and colors ?

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Tue, 05 Oct 2010 21:32:48 GMT  
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Didier wrote on Tue, 05 October 2010 19:03 Hi Koldo,

Fantastic

I didn't know Draw didn't support dashed lines.

What is the trick with dashes and colors ?

Hello Didier

Sorry, it is not colors, it is line width. A line with negative width means that is dashed.

Look at [http://www.ultimatepp.org/src\\$Draw\\$Draw\\$en-us.html](http://www.ultimatepp.org/src$Draw$Draw$en-us.html) in DrawLineOp().

However this Draw behavior is lost in Painter and Pdf. This is the reason the grid was lost.

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Wed, 06 Oct 2010 20:24:49 GMT

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Hi Koldo,

Now even with Painter package, CIRCLE and grid polyline work

I have to admit I didn't expect you would go into drawing each individual dash

Tchao !

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Thu, 07 Oct 2010 06:29:36 GMT  
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Yes Didier

I have to admit I didn't expect you would go into drawing each individual dash. If somebody wants dashed lines and works in Draw, s/he can take the code from Scatter. The code also cares that dashed lines goes "softly" in polylines.

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [Didier](#) on Thu, 07 Oct 2010 20:43:00 GMT  
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Hi Koldo,

After taking a look at PlotCtrl, I saw that it had dashes while having Painter.  
So I looked at the code and found out that Painter supports dashes (they are drawn exactly the same way you did):

```
inline Painter& Painter::Dash(const Vector<double>& dash, double start)
{
    if(dash.GetCount() & 1) {
        Vector<double> dash1;
        dash1.Append(dash);
        dash1.Append(dash);
        DashOp(dash1, start);
    }
    else
        DashOp(dash, start);
    return *this;
}
```

Though you would appreciate this info

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Subject: Re: Scatter : getDrawing !!!! help !!!!  
Posted by [koldo](#) on Fri, 08 Oct 2010 06:23:28 GMT  
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Didier wrote on Thu, 07 October 2010 22:43Hi Koldo,

After taking a look at PlotCtrl, I saw that it had dashes while having Painter.  
So I looked at the code and found out that Painter supports dashes (they are drawn exactly the same way you did):

```
inline Painter& Painter::Dash(const Vector<double>& dash, double start)
{
    if(dash.GetCount() & 1) {
        Vector<double> dash1;
        dash1.Append(dash);
        dash1.Append(dash);
        DashOp(dash1, start);
    }
    else
        DashOp(dash, start);
    return *this;
}
```

Though you would appreciate this info

Hello Didier

Quote:If somebody wants dashed lines and works in DrawYes, I know Painter includes dashes .  
As Draw does not include them, I added them.

To be as fast as possible, Scatter uses Draw.

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